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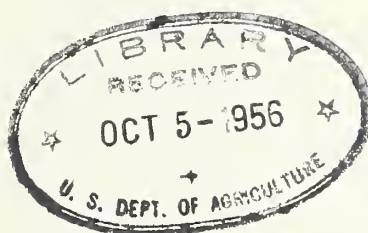
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State Guides for

ASSESSING FOREST LAND AND TIMBER

1955

Compiled by
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DIVISION OF FOREST ECONOMICS RESEARCH



UNITED STATES DEPARTMENT OF AGRICULTURE
FOREST SERVICE - 1956



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INTRODUCTION

Lack of up to date information of a comprehensive character concerning the assessment of forest land and timber subject to the general property tax led the Forest Service to undertake a study in this field. Carried out with assistance from State Tax Commissions, the study is similar to one made by the Forest Service in 1941.^{1/} Findings of the study are discussed in the March 1956 issue of the Journal of Forestry.^{2/} Twenty-seven States now issue assessment guides containing some reference to forest land and timber as against 12 such States in 1941.

Actual assessment guides, or excerpts therefrom, for each of the 27 States in question are found on the pages that follow. Primary emphasis has been placed upon instructions contained in State assessors' manuals and similar publications. Also included are certain statutory provisions and administrative rulings. Assessment instructions issued by counties or other units of local government have not been covered. Data have been corrected through April 1, 1955, and in addition certain later material has been included that became available prior to publication.

Although it is difficult to achieve complete consistency from State to State, the objective has been to include all significant data bearing directly upon the assessment of timber and forest land subject to the general property tax. The study did not cover exemptions, yield taxes, or other special forest tax laws; these are contained in the State Forest Tax Law Digest issued periodically by the Forest Service.

^{1/} Nelson, A. Z. 1941. Status of official instructions for assessing forest land. Forest Taxation Inquiry. Forest Service, U. S. Dept. of Agr. 28 pp. (Processed)

^{2/} Williams, E. T. 1956. Tax assessment of forest land and timber shows improvement. Journal of Forestry, 54(3):172-176. Reprints of this article may be obtained from the Division of Forest Economics Research, U. S. Forest Service, Washington 25, D. C.

CALIFORNIA

"Instructions for Use of Timber Property Appraisal Record."

"The Timber Property Appraisal Record is designed for use in the appraisal of land values (exclusive of standing timber) on all timber properties. A separate form, Standing Timber Record,...is used to record the values of standing timber." (Both of these forms are reproduced in the following pages.)

...

"Numbers following in these instructions refer to...'Timber Property Appraisal Record'..."

1. 'PARCEL'. The map book number, map page, and parcel number on page are entered here.
2. 'COMMUNITY'. The community in which the property is located should be entered here.
3. 'DESCRIPTION'. Enter the legal description of the property. The simplest description should be used, but it must adequately identify the property. If description is by Government Subdivision, insert fractional Section, Township, and Range in spaces provided. Insert acreage of parcel.
4. 'GENERAL FACTORS'. Check or note the applicable general factors that apply.
5. 'SUMMARY'. Under this section enter data as follows:
 - (a) 'Year'. Insert here the assessment year applicable to the appraisals and assessed values. If the record was originally for the year 1955 and is being used again for 1956, appraised values being the same, do not change the 1955 to 1956. Never destroy or alter the record of a previous year. If the values are the same, add '56' so the record will read '1955-56'.
 - (b) 'Appraiser'. Enter initials of the appraiser.
 - (c) Enter date appraisal is made.
 - (d) Enter values as listed for the various classes of property which may be present on the timber parcel.
6. 'APPRAISED VALUES'. Enter the appraised values of the various classes of property as listed. The timber value is shown separate from the land value even though timber technically is classified as land.
7. 'ASSESSED VALUES'. Enter here the values for which the property is to be assessed for the assessment year shown at the top of the column. The total assessment should always be entered at the time of 'take-off' and checked at the time so that there is no error.

8. 'TRANSACTION RECORD'.

(a) 'Date'. Enter the date recorded. If date of deed is materially different, enter date of deed under remarks.

(b) 'I. R. S.'. Internal Revenue Stamps. Enter the amount of internal revenue tax paid, if any, on sale.

(c) 'Tr. Deed'. Trust Deed (or mortgage). The Trust Deed or Mortgage should always be entered, if available in the deed, or on instrument following the deed. A special search should not be made unless it is of particular interest or needed to obtain a complete picture for an appraisal. Enter also the type of trust deed or mortgage by the following code:

P - Private Loan

L - Loan by Private Bank

(d) 'Indicated Sale Price'. The indicated sale price is computed by dividing the I.R.S. by 0.0011. Do not make any deduction from the resulting amount. If the sale price is verified, put an asterisk (*) in the upper left-hand corner.

Immediately following the amount, enter the type of transfer according to the following code:

B -- Bank

By -- Bankruptcy

D -- Decree

E -- Estate

F -- Foreclosure

Fa -- Family

I -- Insurance, etc.

L -- Liquidation

P -- Private Party

(e) 'Grantee'. Enter Grantee's name.

9. 'SOIL DATA'.

(a) Enter area number; i.e. designation of area by type of soil and other desirable segregation within parcel.

(b) Enter natural land class of soil.

(c) Type of soil from soil survey if available.

(d) Topography.

(e) Relief.

(f) Erosion.

(g) Index of soil type as per Storie rating.

(h) Enter use type for uses other than those listed.

(i) Acreage equivalent (acreage multiplied by Storie index).

(j) Present use.

(k) Remarks: - add pertinent information.

10. 'LAND VALUES'

(a) Give year of appraisal.

(b) Area number as designated above (9 a).

(c) Acres

(d) Value per acre

(e) Total value for each area.

(f) Total value of parcel. (This value should be discounted to allow for the time factor for certain properties under term management.)

"Instructions for Use of Standing Timber Record."

"This form is designed for use in the appraisal of standing timber only, and is to be used in conjunction with the 'Timber Property Appraisal Record'...

1. 'PARCEL' The map book number, map page, and parcel number on page are entered here.

2. 'TIMBER VOLUME AND VALUE' Provides adequate space to carry a current record of timber volumes and value.

(a) 'Year'. The year for which the appraisal and assessment are determined is entered here. If the appraised values indicated for a previous assessment year are to be used without change during the current year, merely add the current year adjacent to the existing period (Example 1955-56). Do not destroy or alter records for previous assessment records.

(b) 'Specie'. The following symbols will be entered in this column to indicate the species of timber:

P	Ponderosa or yellow pine	R	Redwood
S	Sugar pine	Po	Port Orford cedar
D	Douglas fir	Rf	True red fir
W	White fir	Lp	Lodgepole pine
I	Incense cedar	Wp	Western white pine

(c) 'Net Volume'. May be entered from any of the following sources:

- (1) Declaration of existing volumes as obtained from the timber owner.
- (2) Cruise information obtained in the field by competent cruisers.
- (3) Use of existing county cruise.

(d) 'Future Val./M'. The future value per MBF (thousand board feet) is the value for which the timber will sell when harvested. This applies to lands under sustained production, long range management, or which must be held by the owner for an extended period of time due to existing circumstances. This 'future' value is generally taken to be the present value before discounting to allow for the time factor. The future value may change from one appraisal period to the next.

(e) 'Total Value'. This indicates the total future value for each specie, and is obtained by multiplying the future value per MBF by the net volume (divided by 1000). These values are carried down to a 'Total Future Value'.

(f) 'Discount Factor' is that factor which applied to the total future value will discount this value to the present, allowing for adequate return on capital, risk, and taxes during the discount period. The proper discount factor to use is discussed under the Time Factor in Appraising Forest Properties.

Parcel _____
Sheet _____ of _____

TIMBER VOLUME AND VALUE

19				19				19				19			
Species	Net Volume	Future Val _M	Total Value	Net Volume	Future Val _M	Total Value	Net Volume	Future Val _M	Total Value	Net Volume	Future Val _M	Total Value			
Total Future Value															
Discount Factor															
Total Present Value															

19				19				19				19			
Species	Net Volume	Future Val _M	Total Value	Net Volume	Future Val _M	Total Value	Net Volume	Future Val _M	Total Value	Net Volume	Future Val _M	Total Value			
Total Future Value															
Discount Factor															
Total Present Value															

TIMBER CUTTING RECORD

[illegible]

LOGGING COSTS (Cost per M.)

Fall, Limb, Buck and Lap								
Yard, Load and Woods Genl.								
Reloading								
Haul (to mill)								
SBE DAS AH5008 12-55								

ADDITIONAL CRUISE FACTORS

[illegible]

VEGETATIVE COVER

[illegible]

TIMBER MANAGEMENT

[illegible]

TIMBER SALE RECORD

[illegible]

REMARKS

(g) 'Total Present Value' is obtained by multiplying the discount factor by the Total Future Value. In the case of properties which are being liquidated or are not discounted for various reasons, the Total Future Value, and the Total Present Value are the same.

3. 'TIMBER CUTTING RECORD' Provides the means to record any harvesting of timber on the parcel.

(a) 'Timbered Acres' records the status of the timbered acres on the property. In the event of a horizontal division of ownership between land and timber, the acreage containing the timber is recorded even though the timber is owned separately.

- (1) 'Virgin' This applies to timber lands which contain the original stand of timber.
- (2) 'Selectively Logged' Enter here the acreage which has been partially cut. In addition, place the percent of volume removed in parenthesis immediately after the acreage.
- (3) 'Cut-over' Record here the acreage from which all merchantable timber has been removed. If 70 percent of the merchantable volume over 16" in diameter has been removed, the remaining immature need not be recorded.
- (4) 'Total' This is the total of the timbered acreage on the parcel.

(b) 'Timber Cut.' Record the timber by specie and volume.

- (1) 'Date' The date of cutting.
- (2) 'Acres' The acres harvested.
- (3) 'Type of Cutting' Record here whether the area has been clear cut, selectively logged, or thinned.
- (4) 'Volume' Enter here the net cut volume of timber by specie. Blank spaces have been provided for species not listed.
- (5) 'Total' Record the total net timber volume cut.

(c) 'Misc. Products Cut'. A record of split products, poles, piling, tanoak, or other specialty products is entered here.

4. 'LOGGING COSTS'. Enter here the average logging cost figures for the area. In the event average costs for zones are used, record any costs which may differ from the average costs due to special circumstances.

5. 'ADDITIONAL CRUISE FACTORS'.

(a) 'Timber Site'. Enter the timber site as set forth by Duncan Dunning, California Forest and Range Experiment Station, based on the relationship of total height to D.B.H. (Diameter Breast High) of the dominant and codominant trees in the timber stand as taken from the site classification graph.

(b) 'Acres'. Refers to the acreage on the parcel within the various timber sites.

(c) 'Log Grades'. Enter the percentage of log grades by specie. The U. S. Forest Service has set forth a system for log grading pine. Use the most recent Douglas fir and other miscellaneous specie log grades as used in the county. This information will generally be obtained through the cooperation of the owner. In the absence of specific log grades, a general indication of quality should be entered as (1) above average (2) average or (3) below average.

(d) 'Species'. Enter the species found on the parcel.

(e) 'Gross Volume Less Visible cull'. This refers to gross cruise volumes obtained in the field from which visible cull deductions have been made.

(f) 'Defect and Breakage Allowance'. A deduction for anticipated hidden defect plus an allowance for expected breakage is included in a percentage figure which is applied to the gross volume minus visible defect to give net volume. Only the defect and breakage percentage figure is entered here.

(g) 'Total Net Volume'. Enter the figure obtained by subtracting the volume allowance for defect and breakage from the gross volume less visible cull.

6. 'VEGETATIVE COVER'.

(a) 'Vegetative Type'. Enter the vegetative cover as delineated on vegetative type maps made from aerial photographs and field checks by the California Forest and Range Experiment Station. At present these maps are not available for some areas.

(b) 'Land Use'. Refers to the present use of the area within each vegetative type.

(c) 'Acres'. Enter the acreage of each type.

7. 'TIMBER MANAGEMENT'. This section provides a record of the management practices employed on the parcel. This is particularly important in determining the discount factors for properties under sustained or long term management.

(a) 'Timbered Acres'. Enter the acreage of timber on the parcel under consideration.

(b) 'Rotation (Yrs.)'. Enter the rotation period of a managed timber operation as obtained from the operator. The type of rotation may vary with the products to be harvested. In effect, the rotation is the length of time required to produce timber of a size suitable for a specific use.

(c) 'Cutting Cycle'. This refers to the period between two successive cuts on a selectively logged property. Two or more selective cuts may be made during the rotation period to harvest mature timber from an all-aged stand or various thinning operations may be made on an even-aged stand.

(d) 'Years Deferred'. Enter the period for which the property is to be discounted to make allowance for the 'time factor'. (See Discussion on Discounting Timber Properties.)

- (e) 'Discount Rate'. Enter the percentage interest rate which allows for profit, risk, and expected future costs on the operation.
- (f) 'Discount factor'. The discount factor is taken from the prepared discount table for the proper discount rate determined above.

8. 'TIMBER SALE RECORD'. This section records timber sales on similar properties in the general operating area.

- (a) 'Date'. Month and year of sale.
- (b) 'Volume In Sale'. Net volume of timber sold.
- (c) 'Sale Area Description'. Section and township of sale.
- (d) 'Seller'. Party selling timber.
- (e) 'Volume'. Volume of timber sold by specie.
- (f) 'Value'. Value per thousand board feet by specie.
- (g) 'Total Value'. Total value of timber in sale.

9. 'REMARKS'. Enter general remarks pertaining to standing timber."

State Board of Equalization, 1956.

Timber appraisers from the State Board of Equalization work directly with the counties as an assistance in making timber assessments. Regional meetings of assessors are held at which problems of assessing timber properties are studied; attention is given to appraisal procedures which recognize the factor of time in addition to those of quality and accessibility, and other conditions affecting operating costs.

COLORADO

"Valuation of timberland in Colorado is limited to four timber producing species of trees: Ponderosa pine, lodgepole pine, Engelmann spruce, and Douglas fir. The other varieties of trees are not deemed to have commercial value in terms of additional valuation: pinyon pine, juniper, aspen, limber pine, Colorado blue spruce, alpine fir, or cork-bark fir. Distribution of the merchantable variety of timber has been located on maps in the State Forester's office in Denver, so that the assessor may secure a record of the location of timber type in his county. Assistance with this information is available upon request to the Tax Commission.

"Assessment valuation of timber is made by the addition of the value of the timber on a given plot to the land value as established in accordance with the procedures outlined earlier in this section. Assignment of these values to any plot of land bearing merchantable timber thereby is in accord with the provisions of Chapter 142, Sections 25 and 26, 1935 Colorado Statutes Annotated. These sections provide that the increase in value of private lands caused by the planting of timber thereon, other than fruit trees and hedges, shall not be taken into consideration for a period of 30 years in assessing land for taxation, unless any of such timber shall have become suitable for economic use prior to the expiration of the 30-year period.

"Timber volume. To have value, the stand of timber should average at least 1,500 board feet per acre. The estimation of this volume can be done by sampling the plot of timber. Using 1/5 acre plots throughout the stand of timber, the following sampling of the stand should be made at these minimum numbers of samples:

<u>Size of Tract</u>	<u>Number of 1/5 Acre Samples</u>
Up to 160 acres	10
161 to 320 acres	15
321 to 640 acres	20

A 1/5 acre sample plot is 93 feet square, or a circle whose radius is 52.7 feet.

"In estimating the board feet of timber volume, no tree should be included as having merchantable value unless it has a minimum of 10 inches diameter at a height of $4\frac{1}{2}$ feet above the ground. The following table gives average volumes of trees of varying diameter, based on the Scribner timber rule:

<u>Diameter $4\frac{1}{2}$ feet above ground - inches</u>	<u>Ponderosa pine and Douglas-fir - board feet</u>	<u>Engelmann spruce and lodgepole pine - board feet</u>
10	25	50
12	50	100
14	100	150
16	150	200
18	175	275
20	200	350
22	250	425
24	375	550
26	525	675

Each tree on the sample plot should be tallied as to size and the volume determined from the foregoing table. This volume is then multiplied by five to obtain the total volume per acre in the immediate area, and the average of the volume per acre for the sample plots multiplied by the total acreage of the stand to determine the total timber volume.

"Accessibility. Haulage to market is of first importance in selling lumber. The tract must be readily accessible to market to have value, and the hauling costs must be reasonable in order to the stand of timber to have sufficient return to warrant its cutting. Market distance, therefore, has an immediate effect on the value of the stand of timber. On the basis of the pre-inflationary costs on which the initial publication of this manual is based, road construction costs averaged about \$1.50 per thousand board feet (MBM). For example, assume that a tract of timber containing 1,000,000 board feet (or 1000 MBM) is sold. Road construction costs are estimated at \$800 to open a road into this timber. Cost per thousand board feet is determined by dividing total road construction cost by the volume; in this case \$800 divided by 1000, or \$.80 per thousand board feet. Preinflationary road costs for this type of construction ranged from \$500 to \$1000 per mile, assuming no rock outcrop and little side-slope. If the majority of the timber is encountered on steep rocky slopes, the area should be considered to have no market value.

"Cost of hauling to market averaged about \$2.50 per thousand board feet. This cost varies, of course, with the distance and type of road over which the hauling must be done. Pre-inflationary hauling costs approximated:

Paved road - \$.07 per thousand board feet per mile
 Gravelled and graded road - \$10 per thousand board feet per mile
 Dirt road with less than 15% grade - \$.15 per thousand board feet per mile
 Dirt road over 15% grade - \$.20 per thousand board feet per mile

Cost of hauling is determined by multiplying the number of miles of each class of road by the appropriate cost per mile, and totalling the cost, which then gives the cost per thousand board feet direct.

"Mature timber has a pre-inflationary value of an average of \$2.00 per thousand board feet.

"Values for 10-inch timber and larger. Mature timber had a pre-inflationary value of approximately \$2.00 per thousand board feet, this figure being based on average operating conditions of both accessibility and hauling distance. Using this average value as a guide, the effect of varying road construction cost and distance to market can be accounted for by adjustment of the average value. When road construction costs more than \$1.50 per thousand board feet and hauling to market costs more than \$2.50 per thousand board feet, the value of the timber is reduced by 40 percent of the difference between the two costs. This percentage reduction is necessary because part of the costs must be assigned to the stumpage value and part to the operator's profit and risk." (pp. C18-19)

Appraisal Manual
Colorado Tax Commission 1949-50.

CONNECTICUT

"Very often assessors give little consideration to timberland and farm woodlots. The valuation of timber calls for special technical knowledge. Where there is considerable timber or woodland in a town, it is recommended that assessors contact the county agricultural agent, state extension forester, or some other qualified specialist to secure assistance. The laws of the State are particularly explicit in their directions on how certain types of woodland are to be valued, assessed and taxed." (p. 17)

Handbook for Connecticut Assessors,
University Institute of Public
Service, Storrs. 1950.

IDAHO

Land Classification

"For purposes of assessment lands shall be classified as follows:

1. Agricultural land... .
2. Timber land, being land on which there is standing timber of commercial quantity and quality.
3. Cut-over and burnt timber land, being land from which timber has been cut or burned, leaving nothing but stumps and burnt timber, and which burnt timber is not at the time of the assessment useful for any commercial purpose. Where timber land is held under separate ownership from the timber thereon the land itself shall be classified under this heading.
4."

Idaho Code, 1947, Sec. 63-315.
CCH Par. 93-105.1/

"The following classes and values have been set up as a guide for appraising timber and timber-land in Idaho. Only four classes are used in order to maintain simplicity in the system, and the definitions of the classes are written with as few technical terms as possible. The values as set up under this system are based first on the sale data of such lands for the period 1937 to 1941 inclusive and secondly on discounted yield or expectation values. The values represent normal appraised values.

"Woodland - Wld - Lands supporting brush, coniferous reproduction averaging 5 inches in diameter, and/or scattered trees of the timber species in stands averaging less than 2 thousand board feet per acre. This land is not considered suitable for grazing. The value of this class has been determined at \$3.00 per acre.

"Woodlot - Wlt - Lands supporting small patches of commercial timber averaging from 2 to 4 thousand board feet per acre and/or supporting young stands of reproduction averaging 5 to 8 inches in diameter. The values of this class have been determined as follows:

1/ Commerce Clearing House State Tax Reporter.

1. Wlt (a) Lands with 15% or more white pine reproduction -
\$7.00 per acre.*
2. Wlt (b) Lands with other species of reproduction or sawtimber
(as defined)
\$6.00 per acre.

"Advanced Poles - AP - Lands supporting coniferous reproduction averaging 8 to 12 inches in diameter. The following values for this class have been determined:

1. AP (a) Lands supporting 15% or more white pine reproduction -
\$12.00 per acre.*
2. AP (b) Lands supporting 25% or more ponderosa pine reproduction - \$10.00 per acre.
3. AP (c) Lands supporting less than 15% white pine or 25% ponderosa pine reproduction -
\$6.00 per acre.

"Timber Land - MT - Lands supporting merchantable timber in stands averaging more than 4 thousand board feet per acre with an average stand diameter of greater than 12 inches. The lands supporting merchantable timber will be appraised at \$3.00 per acre exclusive of the timber which will be considered as added value and will be appraised at the following base rates:

Western white pine	\$5.00 per thousand board feet
Ponderosa pine	\$3.00 per thousand board feet
Lodgepole pine	\$2.00 per thousand board feet
Other sawtimber	\$1.00 per thousand board feet

Poles:

- Cedar (at least 35 inches in circumference 8 feet above ground and 30 feet in height) \$.75 each
- Lodgepole (at least 37 inches in circumference 8 feet above ground and 30 feet in height) \$.25 each"

Adjustment of Values

"The acre value for woodland will be considered basic and no adjustment will be made for this class.

"The values for Woodlot and Advanced Pole classes will be adjusted for site quality and stocking density (no adjustment for location) by applying the following percentages. To qualify for a percentage factor, the area must meet both site quality and stocking density requirements.

*In applying the White pine classification, Blister-Rust Control areas must be considered. The class will not apply outside of BRC areas.

- I. 100% Good site and well stocked - deep loamy soil, good drainage; generally north and east slopes or bottoms; 40% stocking or better based on 10 mil-acre plots.
- II. 75% Medium site and stocking - moderately deep soil generally occurring on steeper slopes, which cause less favorable moisture conditions than are present on the good site; 20 to 40% stocking based on 10 mil-acre plots.
- III. 50% Poor site and stocking - shallow soil, generally south and west slopes, moisture conditions generally unfavorable; 10 to 20% stocking based on 10 mil-acre plots.

"In adjusting the stumpage values of sawtimber, percentage corrections will be determined for areas on the basis of geographical boundaries and the one correction factor will be used for all appraisals in the area. The quality of the timber will be considered only if it is extremely rough and limby and such corrections will be applied only to local areas. Special corrections for timber which must be transported by water to the mill will be considered in the determination of the location factor.

"For land classes other than those listed above, the method of appraisal outlined in the Memo on Land Appraisal will be followed. The standard types listed in the memo will be used and the district values applied and corrected as required. All types or land classes will be applied on the basis of a single forty when appraising timber land; this has become necessary both from the standpoint of the timber land appraiser and the timber land owner. An exception to this will be the small patches of merchantable timber occurring in agricultural districts; these will be appraised in the same manner as agricultural land -- ownership per section."

Instructions for Cruisers

(This section includes practical suggestions for conduct of line-plot timber cruises, sample cruise map and cruise sheet, and outline of cruise data computation.)

Appendix

(This includes definition of terms, average cull percentages for various species, mapping symbols, and volume tables for use in north Idaho and south Idaho respectively.)

Appraisal Manual for Timber and
Timber Lands. State Tax
Commission. (n.d.)

ILLINOIS

Use of Soil Conservation Service land capability classes or similar rural land classification is recommended. Land capability classes defined by the Soil Conservation Service include the following:

"Class V - Land is suited for grazing or forestry with slight or no limitations. It is nearly level and usually there is little or no erosion. It is wet or stony or is otherwise unsuited for cultivation. It needs only good management to remain productive for grass or trees.

"Class VI - Land not suited for cultivation but should make good pasture with careful management and improvement through reseeding and fertilizing. It is also suited for trees. It washes easily and has steep slopes that range from 18 to 20 percent.

"Class VII - Land not suited for cultivation but suited for grass or trees with very careful management. It has shallow soil and steep slopes that range from 26 to 60 percent.

"Class VIII - Land not suited for cultivation, grazing or forestry, but is suited for wildlife or recreation or for watershed protection. It is usually very steep, rough, stony, sandy, wet or severely eroded."

(p. 41)

"The following outlines the procedure for valuing merchantable timber. The base land value of merchantable timberland on any tract is determined by adding the value of merchantable timber to the base land capability value as described in the preceding paragraphs on rural land valuation.

"The general practice provides that merchantable timber is not valued separately unless such tracts have pole size and sawlog size stands and are used exclusively for the growing of timber. Thus, young timberland or small windbreaks and cattle shelter timber tracts are not considered in valuing merchantable timber.

"The value of merchantable timber depends on the kind and size of trees and the number of acres of such trees. While young timberland containing small growing trees has some value separable from the land, such value cannot be realized without reducing the productive value of the timberland. Therefore, the smaller trees should be included in the valuation of the land, and a separate value should be added only for pole size and sawlog stands of merchantable timber.

"Following are the main steps for the appraisal of such merchantable timber:

- (1) Determine the approximate number of acres which are covered with merchantable timber. Aerial photographs, in addition to field checks, furnish this information and the use of a planimeter or grid gives the number of acres.
- (2) Determine the estimated number of pole size and sawlog stands of trees in each acre of the tract. Again the aerial photographs and the field inspection assist in furnishing information on the number of acres of such mature trees.
- (3) Multiply the total number of acres having such merchantable timber on the tract by the average value per acre. The average value per acre is estimated according to the quality and average number of pole size and sawlog stands per acre.
- (4) Add the total value of the merchantable timber on the tract to the base land capability value to obtain the total land value of the tract.

"The Department will give necessary technical assistance on the valuation of merchantable timber, when requested by the assessing official."

(p. 53)

Real Property Assessment Manual.
Department of Revenue, Property
Tax Division. 1952.

INDIANA

"...properties...classified into sub-classes as follows:

...

3 - 6 All other non-farm land.

This class shall include strip mine spoil banks, waste lands, abandoned and unoccupied farms, forest lands, etc., and should be assessed comparable to adjacent farm land."

(p. 19)

Methods of appraising farm acreage, including woodland, by means or productivity ratings are explained and use of average assessed values per acre shown in the following table is suggested. (pp. 149-154)

Real Estate Assessment Guide, No. 1,
Second Edition. State Board of Tax
Commissioners. 1951

Indiana Real Estate Assessment Guide

Table VII. Grades and Suggested Assessed Values per Acre of Farm Land Alone

Kind of Land and Grade	No. of Acres in Indiana	Capable of Producing	Productivity Rating Average = 100*	Assessed Value Per Acre	Total Assessed Valuation
...
Woods	2,673,965			Total value	\$11,284,397
A	25,937	Large Saw Timber	13.0	\$50 and over (average \$55)	272,339
B	71,395	Medium Saw Timber	10.5	\$35-\$50 (average \$42)	605,430
C	908,613	Medium to Small Saw Timber	7.5	\$20-\$35 (average \$27)	5,506,195
D	1,093,652	Small Second Growth	4.5	\$5-\$20 (average \$12)	3,969,957
E	574,368	Badly Eroded and Outover Land	2.0	Under \$5 (average \$1.75)	930,476
...

*Productivity factor of 100 represents a national standard for agricultural productivity of an average year and under average farm management practice of 50 bu. of corn per acre, 25 bu. of wheat per acre, 25 bu. of soybean per acre, 2 tons of mixed hay per acre, or their equivalents.

KENTUCKY

"The classification of rural lands for assessment purposes is based on the separation of lands into classes according to the productivity of the land... The Soil Conservation Service of the Department of Agriculture has developed a land classification system, which classes land according to its capability... The land classes, I through VIII, range from the best and most easily cultivated land to land that has no value for cultivation, grazing, or forestry but may be suitable for wildlife, recreation, or watershed protection. ... Wooded land will be classified in the appropriate class followed with the letter "W" added to the classification number, for example IW, IIW, ..."

(pp. 35, 36)

"The following outlines the general procedure for valuing merchantable timber. The base land value of any merchantable timberland on any tract is determined by adding the value of merchantable timber to the base land capability value as described in the preceding section on rural land valuation.

"The general practice provides that merchantable timber is not valued separately unless such tracts have pole size and sawlog size stands and are used exclusively for the growing of timber. Thus, young timberland or small windbreaks and cattle shelter timber tracts are not considered in valuing merchantable timber.

"The value of merchantable timber depends on the kind and size of trees and the number of acres of such trees. While young timberland containing small growing trees have some value separable from the land, such value cannot be realized without reducing the productive value of the timberland. Therefore, the smaller trees should be included in the valuation of the land, and a separate value should be added only for pole size and sawlog stands of merchantable timber.

"Following are the main steps for the appraisal of such merchantable timber:

- (1) Determine the approximate number of acres which are covered with merchantable timber. Aerial photographs, in addition to field checks, furnish this information and the use of a planimeter or grid gives the number of acres.
- (2) Determine the estimated number of pole size and sawlog stands of trees in each acre of the tract. Again the aerial photographs and the field inspection will assist in furnishing information on the number of acres of such mature trees.
- (3) Multiply the total number of acres having such merchantable timber on the tract by the average value per acre. The average value per acre is estimated according to the quality and average number of pole size and sawlog stands per acre.

- (4) Add the total value of the merchantable timber on the tract to the base land capability value to obtain the total land value of the tract.

"The County Tax Commissioner should contact the Department of Revenue and the Department will give necessary technical assistance on the valuation of merchantable timber."

(p. 47)

Kentucky Real Property Appraisal
Manual. Department of Revenue.
1952.

"For listing real property, the following descriptive information should be shown on the return form:

...

(7) description of timberland acres for fire protection.

(8) description of...timber rights... ." (pp. 8-9)

"Standing timber is taxable where located regardless of the domicile of the owner... ." (p. 12)

"...the owner of land may transfer his ownership of the sub-surface rights such as coal...to some other person or corporation. If so, the rights are assessed as real estate against the person to whom the rights were transferred. The same is true of standing timber. ..."

(p. 14)

Kentucky Property Assessment
Administration Manual.
Department of Revenue. 1950.

LOUISIANA^{1/}

"...

"Forest lands are hereby classified for assessment purposes as follows:

1. TIDEWATER CYPRESS LAND--Forest land that is adjacent to tidewater and that is supporting a growth of trees which are predominantly cypress or that at some time in the past supported a growth of trees which were predominantly cypress, and which has not been captured or occupied predominantly by commercial species other than cypress.
2. HARDWOOD LAND--Forest land that is supporting a growth of trees or shrubs which are predominantly broadleaf species and that in the past supported a growth of predominantly broadleaf species, and which has not been captured or occupied by tidewater cypress or pine. Tidewater Cypress Land, Longleaf Pine Land, and Other Pine Land on which broadleaf species of commercial importance have become established as predominant species is Hardwood Land.
3. LONGLEAF PINE LAND--Forest land that is supporting a growth of pine predominantly of the longleaf pine species (*Pinus Palustris*) or that at some time in the past supported a growth of longleaf pine and on which other pine species or broad leaf species of commercial importance have not become established as the predominant species.
4. OTHER PINE LAND--Forest land that is supporting a growth of pine predominantly of a species other than longleaf pine or that at some time in the past supported a growth of pine predominantly of a species other than longleaf pine and on which longleaf pine or broadleaf species of commercial importance have not become established as predominant species.

"For the purpose of taxation, the assessed values of the above classifications of forest lands shall be determined and the assessment of such lands shall be made in the manner provided by law. After the effective date of this amendment, no additional value shall be added to the assessment of land by reason of the presence of timber thereon in excess of such value as was included in the assessment of said lands and timber thereon at the time of the adoption of this amendment; provided that standing timber shall be and remain liable equally with the land on which it stands, for ad valorem taxes levied on said land.

..."

Constitution of Louisiana, Article X,
Section 1, as amended pursuant to Act
759, Laws of 1954, effective January 1,
1955.

^{1/} Standing timber, other than virgin timber, is exempt from the general property tax under Constitutional Amendment effective January 1, 1955. Forest land, however, remains subject to the property tax.

MAINE

"Section 42. Forest land; policy.--It is declared to be the public policy of the state, by which all officials of the state and of its municipal subdivisions are to be guided in the performance of their official duties, to encourage by the maintenance of adequate incentive the operation of all forest lands on a sustained yield basis by their owners, and to establish and maintain uniformity in methods of assessment for purposes of taxation according to the productivity of the land, giving due weight in the determination of assessed value to location and public facilities as factors contributing to advantage in operation.

"Section 43. Forest land; assessment.--An assessment of forest land for purposes of taxation shall be held to be in excess of just value by any court of competent jurisdiction, upon proof by the owner that the tax burden imposed by the assessment creates an incentive to abandon the land, or to strip the land, or otherwise to operate contrary to the public policy declared in Section 42. In proof of his contention the owner shall show that by reason of the burden of the tax he is unable by efficient operation of the forest land on a sustained yield basis to obtain an adequate annual net return commensurate with the risk involved.

"For the purposes of this section forest land shall be held to include any single tract of land exceeding 25 acres in area under one ownership which is devoted to the growing of trees for the purpose of cutting for commercial use."

Revised Statutes, Chapter 91-A,
1954.

"Whenever the owner of real estate notifies the assessors that any part of the wood, bark, and timber standing thereon has been sold by contract in writing, and exhibits to them proper evidence, they shall assess such wood, bark, and timber to the purchaser."

Revised Statutes, Chapter 91-A,
Section 23. 1954.

"The valuation and assessment of woodlands is one of the most important yet difficult duties of the assessor. The well being of his town and the state depends on how he treats this problem. As with other kinds of property, the assessor should assess all taxable woodlands in accordance with their value, which value is complicated by the fact that the income arising from the woodlands may be deferred for many years, during which time taxes and other annual carrying costs accrue.

"Although no values are here suggested, since the quantity, type, character and species of wood, and the operability and nearness to market of the land affect value so that it is difficult to generalize, it is

believed that assessors know the relative value of their woodlands with other kinds of land. But it must be kept in mind that it usually takes from 40 to 60 years to produce a timber crop. Undoubtedly, timber cruising, or the use of aerial photographs, are desirable as tools in establishing such values.

"An aerial survey has been made of Hancock County which together with ground control was used as the basis of a report on forest taxation, which disclosed that for the most part woodlands can be successfully subjected to an annual property tax without confiscation, provided that the tax is administered such that all taxable property is assessed fairly and without discrimination. The exceptions are those towns which demand or need services greater than the tax resources of the town can afford.

"In general, the assessor has two problems, namely, finding the property, and giving it a value. In the case of woodlands neither problem can be easily solved or lightly treated. A good map of the town is desirable and practically essential in order to know who owns what, and exactly what it is, that is owned. Aerial maps have been made of a good part of the state, although in some instances they are not available to the assessor. These maps are useful in determining acreages, ownerships, and character of the land and the growth.

"As in the case of valuing farms, we believe in land classification; i. e., the number of acres of each class of land with the kind of growth thereon. It is only in this way that the poorer lands can be profitably held in private ownership, since then the better lands will pay their way and in so doing relieve the poorer lands. The acreages are important, for it is well known that in many towns the assessed acreage is considerably under that indicated by a map, giving due allowance for lakes and streams. Improvements, such as buildings and all taxable personal property must of course be assessed on the same basis as land.

"Although no unit values are here given, it is believed that they should be based on a tax which will not confiscate the property, but will permit an annual income to the town and at the same time encourage good forestry practice to develop and maintain forest resources, and not induce wanton cutting and waste."

(pp. 84-5)

Guide for Use of Assessors
Bureau of Taxation. 1950.

MARYLAND

"Farm land is to be assessed in the following classes: tillable, pasture, wooded, scrub, or marsh." (n.p.)

Official Manual for Tax Assessors,
State Tax Commission. 1948.

MICHIGAN

The Assessor's Manual, 1955, devotes some 20 pages to the assessment of cut-over and forest land.^{1/} In addition the assessment of Christmas tree plantations is discussed.

The manual lists principal soil groups (see Summary of Major Classes reproduced on following page) and includes maps to show the general land groups and forest cover types of the State. Locational and physical characteristics affecting value are explained and suggestions made for securing specific price information. Examples of cut-over land types are illustrated by photographs (see reproduction of sample page) and appraisal methods are explained. In addition the manual provides tables showing volume per acre by stand-size and stocking class, 1954 stumpage prices, and per acre values for various stumpage prices and timber volumes.

^{1/} Assessor's Manual, 1955. Michigan State Tax Commission, Lansing, Michigan. 249 pages. \$4.50.

SUMMARY OF MAJOR CLASSES

SOIL	TOPOGRAPHY	COVER	LOCATION	CHARACTERISTICS
LOAMS SAND LOAMS Hardwood Land	Rolling Plains Broad Ridge Tops Hills, Slopes	ORIGINAL Hardwood Occasional White Pine Hemlock. PRESENT Largely Aspen Northern Hardwood White Spruce	West part of U.P. N. & W. Sec. of L.P. Typical areas in Iron Co. Marquette Co. Antrim Co. Osceola Co.	Usually a good stand of 2nd growth started. Some of this land now in agri- culture. Land generally of higher basic value than other classes. Luxuriant ground cover.
SANDY LOAMS BETTER SAND White Pine Land	Undulating to Rolling	ORIGINAL Some Hardwood White Pine Red Pine Mixed Pine and Hardwood PRESENT Aspen White Birch Scrub Oak Soft Maple	Large areas in central and east part of L. P. Scattered in U. P. Typical areas in Marquette Co. Alger Co. Montmorency Co. Lake Co.	Much of this covered with good grade Aspen. Pro- duces fast growing Jack Pine. Good site for Red and White Pine. Good wild pasture. Badly burned areas may be exceedingly poor.
HEAVY SAND PLAINS BETTER SAND Norway Land	Level to rolling	ORIGINAL Largely Norway Some White Pine Poor Hardwoods PRESENT Largely Scrub Oak Slow Growing Jack	Chiefly in North-Cen- tral part of U. P. and North-Central part of L. P. Typical areas in Schoolcraft Co. Alger Co. Kalkaska Co. Roscommon Co.	Produces fair Jack Pine, Black Oak, Pin Oak, Coarse Grasses and Brush. Much of this badly burned and exceedingly poor.
DRY SAND PLAINS Jack Pine Land	Level	ORIGINAL Poor Norway Mixed Brush Coarse Grass PRESENT Scattered Jack Pine Scattered Brush Coarse Grass	Large areas in northern half of L. P. Typical areas in Alger Co. Crawford Co. Roscommon Co.	Non-Productive Usually lowest value. Generally producing Sparse grasses, Scrub Aspen, Blueberries, Sweet Fern. Badly burned white pine and Norway lands re- verted to this class of land.
POORLY DRAINED ORGANIC AND LOWLAND SOIL PEAT-MUCK Swamps	Flat to Undulating	ORIGINAL Tamarack, Spruce, Balsam, Cedar, Ash, Elm, Balm of Gilead and other swamp species. PRESENT Growing back to original specie.	Large areas in eastern part of U.P. and north- ern L. P. Typical areas in Chippewa Co. Schoolcraft Co. Alpena Co. Cheboygan Co. Smaller parcels in many counties.	Generally growing back to similar swamp specie. Sometimes valuable as wild Christmas tree pro- ducing areas.
NON-PRODUCTIVE Sand Dunes Rock Muskeg Marsh Land Boulder Strewn	Variable	Practically None	Scattered	Little Value. Generally very low value. Occasional Scenic or Bldg. Site Value.



No. 1—Rolling to Hilly. Mixed Hardwood Cover.



No. 2—Rolling Hillcrest. Mixed Hardwood Cover.



No. 3—Very Hilly. Original Hardwood Cover.



No. 4—Level to Hilly. No Timber Reproduction.

Location: Considerable areas throughout most of the Lower Peninsula and the west end of the Upper Peninsula. Typical large areas in Iron, Dickinson, Menominee, Antrim, Otsego and Osceola Counties. Many small areas in other counties.

Soil: Varies from Clay to Sandy Loam. Usually well drained.

Topography: Rolling to hilly relief. Area of slopes exceeds that of flat land.

Cover: Typical species are Sugar Maple, Yellow Birch, Beech, Basswood, White Ash, Elm, Aspen, White Birch. Hemlock and White Pine frequently intermixed.

Utilization: When suitably located much of this area has been developed for farming. Hilly and isolated areas not cleared are developing natural reproduction or are being reforested by the owners.

Broad leaf species ranging from Aspen to Maple are the usual natural cover. Much of the open area has been planted to pine.

Due to the prevalence of small lakes and streams and the variety of natural cover, this type of land, in the wild state, produces and supports a variety of game animals and birds which creates a demand for it as hunting and recreational land.

MINNESOTA

"Real estate, rural in character, and used exclusively for the purpose of growing trees for timber, lumber, wood and wood products shall constitute class three 'e', and shall be valued and assessed at 20 percent of the full and true value thereof."

Laws of 1955, Chapter 751.

"The county supervisor of assessments shall have the following powers and duties:

...

- (7) He shall immediately commence the preparation of a large scale topographical land map of the county,..., showing thereon the location of all...rivers and lakes, swamp areas, wooded tracts, stony ridges, and other features which might affect the value of the land. ... For use in connection with the topographical land map, he shall prepare and keep available in his office tables showing fair average minimum and maximum true and full values per acre of cultivated, meadow, pasture, cut-over timber and waste lands of each township..."

(pp. 26-7)

"For the purposes of taxation, 'real property' includes the land itself...and all...trees on...it."

(p. 45)

"When lands are conveyed or transferred to the United States, to the State of Minnesota, or to any governmental subdivision of either, for any purpose and the owner reserves any right or interest in the timber upon...such land, such timber interest and any structure which the owner of such timber...interest may erect on such land shall be assessed and taxed as real estate,..., and these interests may be sold for taxes in the same manner and with the same effect as other interests in real estate are sold for taxes."

(pp. 45-6)

"In valuing an individual farm... The land...must be properly classified according to the classification called for on the assessor's card, i.e.,..., timber or woodlot, etc."

(p. 56)

Minnesota Assessors' Manual
Department of Taxation, 1953-54.

MISSISSIPPI^{1/}

"... 1. 'cultivable lands' and 2. 'uncultivable lands' ... are the classifications fixed by law. ... 'Uncultivable lands' consist of the following types of land:

- (f) Gullies, sand beds and hills which cannot be used for agricultural purposes; low lands, which are so often overflowed, that they cannot be used for agriculture--growing of crops.
- (g) Lands so thickly in stumps, bushes or trees as not to be susceptible of agriculture.
- (h) Lands so lacking in fertility that the soil is not capable of producing crops by the use of ordinary methods of preparation and the ordinary use of fertilizer."

(pp. 22-3)

"...reservations and other interests, having a value, when owned by another than the owner of the fee, or surface owner, are to be assessed separately... . Long term timber reservations are to be assessed, because the reservation is the right to grow timber on the land, and the surface owner is denied the right to use his land. But growing and standing timber is exempt."

(p. 22)

Hand Book for Property Tax
Assessments.
State Tax Commission. 1952.

MISSOURI

"Farm land should be assessed to include the land itself...and all trees...on...the same."

(p. 28)

Assessors Manual
State Tax Commission. 1953.

^{1/} Standing timber is exempt from the property tax under provisions of the nonoptional yield tax law adopted in 1940. Forest land remains subject to the property tax.

NEW HAMPSHIRE^{1/}

- "22. How is the value of the land on which non-taxable standing timber is growing to be determined?
- A. In the same manner as the value of other taxable property; namely, on a fair sale basis. The question is, what would the land without the timber sell for at a fair sale under normal conditions?
- "23. How would the value of the land after the timber had been cut compare with the value of the same land before the timber was cut?
- A. If the timber had recently been severed the value should be approximately the same. If, however, the timber had been severed several years previously this might not be true.
- "24. Is there a standard value for land covered with timber, or for cut-over land?
- A. Absolutely none. Each piece of land, whether covered with trees or cut over, must be judged separately.
- "25. In determining the value of cutover land, what must be considered?
- A. (a) Its location;
(b) Its adaptability to grow timber;
(c) The quality of the soil;
(d) The possible use for other purposes: for example, house lots, pasture, etc.
(e) Its proximity to farms or villages;
(f) Its location with reference to highways and the kind of highway--whether dirt road or hard surface;
(g) Its location with relation to possible markets.
- "26. Illustrate what is meant by the last answer.
- A. Jones has 50 acres of level land from which a stand of pine timber was cut within six months. The land borders on a black road, and is 4 miles from a sizeable town. It has good soil and has seeded in to a few small pines. It adjoins a farm.
- Brown has 50 acres of land on the side of a mountain, from which the pine timber was cut some 5 years ago. It is located 2 miles from a black road and 15 miles from a town. Both Jones' and Brown's land can be designated as cutover land, but

^{1/} The nonoptional yield tax law enacted in 1949 exempts from the property tax standing timber, other than mature timber which an owner fails to cut with the result that the tax district is unreasonably deprived of revenue. Such timber and also forest land remains subject to the property tax.

the value per acre differs greatly. Jones' lot bids fair to carry another crop of timber, or if this fails the land is adaptable for pasture or building lots. Brown's land may never grow another stand of timber unless the lot is artificially stocked with pine seedlings, and its value per acre is very small as compared with that of Jones' piece.

"27. John Smith has a farm of 150 acres with buildings, pasture and tillage land. In one corner is a stand of 200 M feet of merchantable pine. There has been no separation on the selectmen's books as between the timber and the farm, but the whole was assessed for \$7000. In April 1950 Smith files an inventory with the selectmen and claims a reduction in the value of his farm of \$1600 because of the exemption of standing timber from taxation. What course should the selectmen follow:

A. The question for them to determine is simply this: How much was the farm worth without the timber on a fair sale basis on the first day of April 1950?

...

"34. If after investigation the selectmen decide that Jones is unreasonably depriving the town of tax revenue by failure to cut mature timber, what can they do?

A. Beginning April 1st of any year after such decision has been reached, they can assess this timber as other property in the town is assessed, on its full value at the local rate."

(pp. 8-10)

Questions and Answers prepared
by the Tax Commission (con-
tained in pamphlet describing
Forest Yield Tax, 1949).

"...a guide to bare land assessment should be available to the selectmen to aid in classifying and valuing land on the basis of its productive capacity and location... A range of values similar to that provided yearly for the assessment of cattle, horses,...lumber, and logs would be most helpful."

(p. 13)

Report of Governor's Timber Tax
Study Committee, 1954.

NEW JERSEY

"The appraisal of rural land involves preparation and analysis of basic data on land capability classifications, productivity and specific valuation guides for assessment purposes...The classes are defined by the Soil Conservation Service as follows: ...

"Class V - Land is suited for grazing or forestry with slight or no limitations. It is nearly level and usually there is little or no erosion. It is wet or stony or otherwise unsuited for cultivation. It needs only management to remain productive for grass or trees.

"Class VI - Land not suited for cultivation but should make good pasture with careful management and improvement through reseeding and fertilizing. It is also suited for trees. It washes easily and has steep slopes that range from 18 to 20 percent.

"Class VII - Land not suited for cultivation but suited for grass or trees with very careful management. It has shallow soil and steep slopes that range from 26 to 60 percent.

...

"In the absence of the Soil Conservation Service land capability maps...and the applicable land classifications, rural lands can be classified under general land use classes pending the time such maps become available.

"The general rural land use classifications with corresponding land capability classifications, are as follows: ...

Pasture or Grazing Land

- | | | |
|-------|--|----|
| P - 1 | Wet or stony land; little slope, little erosion,
fair pasture or forest land | V |
| P - 2 | Good permanent pasture land; steep slopes up to
20%, erosion severe if cultivated | VI |

Woodland or Waste Land

- | | | |
|-------|--|-----|
| W - 1 | Fair permanent pasture or woodland; shallow soil,
steep slopes up to 60%, severe erosion possible
if not carefully managed | VII |
|-------|--|-----|

...

"The land classes...group together the areas of similar productive capability or capacity so that a uniform 'base value' may be assigned... This 'base value'...is then modified...for any given tract to account for differences in value due to...factors such as location, roads, timber, minerals, etc."

...

(pp. 34-38)

Real Property Appraisal Manual for
Assessors, Local Property Tax Bureau,
Division of Taxation. 1955.

NEW YORK

The Board of Equalization assists assessors through correspondence and conferences and furnishes excerpts from the tax laws. Training schools are conducted at which the assessment of forest land is considered. Training schools are also sponsored by the Association of Towns and the New York State Assessors Association. A talk on the assessment of forest tracts was recently presented before one of the schools.^{1/}

New York is faced with a special problem in that the State pays real estate taxes on over two million acres of land which is largely forested. Special laws and instructions are used by the assessors in making assessments on these properties. In this connection and in reviewing State equalization rates the appraisal of all forest lands in 81 towns has recently been completed. About 6 million acres in all were covered in the Adirondack and Catskill area.

The Board of Equalization has three full time foresters on its staff and regards the value of such personnel as fully demonstrated. While the problems involved in raising the level of assessment practices are recognized, it is felt that as better practices are adopted forest taxation problems will be greatly reduced.

Although detailed forest assessment instructions are not yet available, an Assessors Manual is now being prepared and this will include a chapter on forest land and timber assessment.

Information supplied by State
Board of Equalization.

^{1/} Assessment of timber lands - address delivered at annual meeting of Association of Towns of New York State, 1954, by Allen W. Bratton, Consulting Forester.

"Assessment of state lands. All wild or forest land within the forest preserve..., shall be assessed and taxed at a like valuation and rate as similar lands of individuals within the tax districts where situated...The assessing officers in any tax district of the state in which state lands are assessed...shall notify the tax commission by mail of the amount of any such assessment...The assessing officers of the several tax districts...shall fix the value of the several parcels of such state property, with the approval of the tax commission, and may increase or diminish the assessment thereof, but no such assessment shall be valid for any purpose without such approval."

Consolidated Laws, Chapter 60,
Article 2, Section 22.
CCH par. 91-501.

NORTH CAROLINA

"It is hereby declared to be the policy of this State so to use its system of real estate taxation as to encourage the conservation of natural resources...and all tax assessors are hereby instructed that in assessing real estate..they shall make no increase in the tax valuation of real estate as a result of the owner's enterprise in adopting any one or more of the following progressive policies: ...

"4. Protection of forest against fire.

"5. Planting of forest trees on vacant land for reforestation purposes (for ten years after such planting)."

Machinery Act of 1939, as amended,
Sec. 500.
CCH par. 93-702.

"In determining the value of land the assessors shall consider as to each tract, parcel or lot separately listed at least its advantages as to location, quality of soil, quantity and quality of timber, water power, water privileges, mineral or quarry or other valuable deposits, fertility, adaptability for agricultural, commercial or industrial uses, the past income therefrom, its probable future income, the present assessed valuation, and any other factors which may affect its value."

Machinery Act of 1939, as amended,
Sec. 501.
CCH par. 93-705.

The Assessment of Timber and Forest Land

...

"The kind of real property most nearly comparable to forest land itself is ordinary rural agricultural and pasture land. The principles involved there can, with slight modification, be applied to forest land. In both cases value can best be determined by analyzing the productive capacity of the soil and its location.

"Timber, apart from the forest land on which it stands, is more nearly comparable to mineral rights, since in both cases the thing appraised is distinguished from the surface rights in the land.

"From these general observations, it is evident that the timber and the forest land must be appraised separately for ad valorem tax purposes, except in one particular situation to be dealt with in a later section of this chapter.

Definition of forest land

...

"Forest land is defined as land bearing forest growth, or land from which the forest has been removed and which shows no evidence of any other recent land use. ... The test of whether abandoned agricultural land should be considered forest land is whether it is at least 5% stocked with trees. Assessors can determine whether 5% stocking exists on an acre of land by reference to the following table:

<u>If the tree diameter is:</u>	<u>The number of trees per acre indicated below is required to make a 5% stocking:</u>
Seedlings	40
4 inches	30
6 inches	22
8 inches	15

"The term 'Waste land' as used in the general section dealing with rural land has significance in this discussion of forest land. As defined earlier in this manual 'waste land' includes what is generally called 'non-productive forest land.' Such land is defined as forest land of such low fertility that it never has and probably never will grow sound commercial saw timber. Brush covered sand dunes,

and dry, rocky ridge tops in the mountains are examples of this class of land. Since non-productive forest land meets the definition of waste land, county assessing authorities should apply to it the same classification and assessment standards.

Appraisal of Forest Land Apart from Standing Timber

"...for general assessment purposes, the two primary factors in setting base per acre values on forest land as such are producing power and accessibility to timber market. ...it is suggested that the Advisory Board set base per acre values for such land (including cut-over land), using a table substantially as follows for recording their decisions:

<u>Productivity</u>	<u>Accessibility to Timber Market</u>		
	<u>Good (A)</u>	<u>Average (B)</u>	<u>Poor (C)</u>
I Above average	IA	IB	IC
II Average	IIA	IIB	IIC
III Below average	IIIA	IIIB	IIIC

... In setting these base values the Advisory Board must always keep in mind that their figures should represent average market values for each grade, not unusually high or unusually low prices for the particular kind of forest land property considered.

"...there is an exception to the rule that forest land and timber should be assessed separately. ...forest land on which there is no merchantable timber, but on which there is either a growth of 'seedlings and saplings' or a growth classified as 'poorly stocked.' Seedlings and saplings have no market value if severed from the land, and poorly stocked timber, regardless of the possible value of individual trees, has no market value simply because there is not enough of it to the acre to warrant the costs of severing it. Yet, in both cases, the presence of this timber enhances the value of the land on which it lies above its bare or cutover value. The difference in value caused by this growth must be taken into account in the tax assessment of the forest land itself, and not in a separate timber value.

"... Two possible ways of making this adjustment present themselves.

"The simplest procedure would be for ...a flat sum addition per acre ..."

"A better procedure would be for the Advisory Board to set up flat sums per acre to be added in these cases in the following manner:

<u>Class</u>		<u>Stand-size Class</u>			
<u>Forest type</u>	<u>Quality</u>	<u>Seedlings & Saplings (per acre)</u>		<u>Poorly Stocked (per acre)</u>	
I Softwood	A. Above average	I A	S & S	I A	PS
	B. Average	I B	S & S	I B	PS
	C. Below average	I C	S & S	I C	PS
II Softwood-hardwood	A. Above average	II A	S & S	II A	PS
	B. Average	II B	S & S	II B	PS
	C. Below average	II C	S & S	II C	PS
III Upland hardwood	A. Above average	III A	S & S	III A	PS
	B. Average	III B	S & S	III B	PS
	C. Below average	III C	S & S	III C	PS
IV Cove hardwood	A. Above average	IV A	S & S	IV A	PS
	B. Average	IV B	S & S	IV B	PS
	C. Below average	IV C	S & S	IV C	PS
V Bottomland hardwood	A. Above average	V A	S & S	V A	PS
	B. Average	V B	S & S	V B	PS
	C. Below average	V C	S & S	V C	PS

"Having settled upon flat additions for the presence of such growths, the Advisory Board should insert them in the table shown above. This table will make it easy for the list taker and assessor to compute the additions to base value for any individual tract of forest land he is called on to appraise.

Appraisal of Timber Apart from the Land on Which it Stands

"...merchantable timber in North Carolina is classed as timber 5 inches or larger in diameter measured 4 1/2 feet from the ground, usually expressed as 'diameter breast high.' Trees under 5 inches in diameter would normally not command a market price if they were cut. ..."

"... For tax assessment purposes there are five readily recognizable broad forest types in North Carolina:

- (1) Softwood...
- (2) Mixed softwood and hardwood...
- (3) Upland hardwoods...
- (4) Cove hardwoods...
- (5) Bottomland hardwoods...

"The County Valuation Committee and its Advisory Board on Timber and Forest Land will be able to identify the forest types existing in their county and can disregard the others in their setting of base values.

"For tax assessment purposes five stand-size classes have been established and...

- (1) Sawtimber: ...
- (2) Pole timber: ...
- (3) Seedlings and saplings: ...
- (4) Poorly stocked: ...
- (5) Plantations: ...
- ...

"The County Valuation Committee through its Advisory Board on Timber and Forest Land will be faced with a problem different from that it faced with forest land valuation when it comes to setting base values on timber itself.

"Timber, like oil or mineral ore, has value only because of the products that can be made from it after it has been removed from the ground, transported to a manufacturing plant, and made into finished or semi-finished products. The value of timber can be said to be a residual value -- that is, the value of the finished product less the cost of harvesting, transportation, manufacture, and a sum for profit and risk. This value is commonly called 'stumpage value.' "

"The most important factors that assessing authorities have to consider in setting base timber values are:

1. Volume per acre
2. Size of trees
3. Species in the stand
4. Quality of the timber
5. Logging conditions
6. Roads
7. Distance from market

...

"It is suggested that the Advisory Board tabulate the base values in the following manner:

Table of base timber values for _____ county

<u>Class</u>		<u>Stand-size Class</u>	
<u>Forest type</u>	<u>Quality</u>	<u>Saw Timber</u> (per 1,000 board feet)	<u>Pole Timber</u> (per cord)
I Softwood	A. Above average	I A	
	B. Average	I B	
	C. Below average	I C	
II Softwood- hardwood	A. Above average	II A	
	B. Average	II B	
	C. Below average	II C	
III Upland hardwood	A. Above average	III A	
	B. Average	III B	
	C. Below average	III C	
IV Cove hardwood	A. Above average	IV A	
	B. Average	IV B	
	C. Below average	IV C	
V Bottomland hardwood	A. Above average	V A	
	B. Average	V B	
	C. Below average	V C	

Note: Since stands of seedlings and saplings and poorly stock stands are to be valued at a base figure per acre, they are not included in this table.

"In setting an assessed valuation on stands of timber, the discussion so far has been confined to stands in what can be called "average" locations, that is, locations representing the normal logging conditions, distance from roads and distance from markets in the particular county. It is immediately obvious, however, that few tracts of timber can be estimated solely on the basis of "average" location, because when the assessor is faced with a particular taxpayer's tract of timber, he must modify this average value that he first places on it to account for its 'accessibility'.

"By the term 'accessibility' is meant the location of the timber with regard to distance from market, logging conditions, and the kind of roads available...

"It is suggested that 'accessibility' be rated 'Good,' 'Average' and 'Poor,' and that percentage adjustments be established in substantially the following manner:

If accessibility rated: Good ... Allow up to 30% increase in base timber value.

If accessibility rated: Average ... Allow no adjustment to base value.

If accessibility rated: Poor ... Allow up to 30% deduction to base timber value.

..."

(pp. 147-163)

The Assessment of Real Property
for Taxation in North Carolina.^{1/}
Institute of Government, Chapel
Hill. 1948.

^{1/} The instructions, suggestions, and systems contained in this manual are tentative or experimental in character and have not been officially adopted by the State.

OHIO

"The County Auditor...shall determine, as near as practicable, the true value of each separate tract and lot of real property in every district... He shall separately note in his platbook...the number of acres of arable land, meadow and pasture land, and wood and uncultivated land in each tract."

Ohio Revised Code, Sec. 5713.03.
CCH 92-808

"A property record card (appraisal card) should be adopted and used for each and every lot, tract or parcel of real property. The property record should be in either sheet or card form as determined by the County Auditor.

...

(C) Agricultural land factors

1. Soil type
2. Topography
3. Erosion
4. Drainage
5. Land use (number of acres in) classified as follows:
 6. Homesite
 7. Tillable or crop land
 8. Orchard
 9. Permanent pasture
 10. Woodland
 11. Waste"

Uniform rules and regulations
relating to the valuation of
real property...for taxation
purposes...January 1, 1955 to
December 31, 1960. Board of
Tax Appeals, 1954.

OREGON

"The assessor shall set down in the assessment roll in separate columns and according to the best information he can obtain:

...
(4) The true cash value of each parcel of land assessed excluding all buildings, structures, improvements and timber thereon.

(5) The true cash value of all timber assessed.

..."

Oregon Revised Statutes,
Sec. 308.215.
CCH Par. 92-353,357,358

"Timber appraisals. Since many counties cannot afford and do not require a full-time qualified timber appraiser, and since it is imperative that such services be available for a minimum time each year, your Committee recommends that House Bill No. 41,...be passed. This bill requires the State Tax Commission to appraise timber and timberland in each of the counties, unless the county assessor has an adequate and competent staff to make such appraisals and to maintain records thereof acceptable to the Commission.

"... Your Committee feels that in fairness to all counties those receiving such assistance should bear the cost..."

(p. 13)

The Property Tax Picture in Oregon
Report of the Legislative
Interim Tax Study Committee,
1953-55.

House Bill 41 referred to in the Report quoted above was adopted as Chapter 230, Laws of 1955. This law provides that the appraised value of standing timber shall take into consideration

"the species, quality, volume after allowance for defect and breakage; accessibility to point of conversion; topography of the site and surrounding country; risk of loss due to fire, insects, disease and storms; growing conditions; carrying charges; and total volume of timber in the area and the rate of its depletion."

The Valuation Division of the State Tax Commission issues a monthly Bulletin carrying frequent references to the assessment of timber and timberland. These references include suggestions for improved assessment practices, interpretations of law, special articles, etc. Timber appraisal service is made available to county assessors at nominal cost. In-service training courses for assessors and tax collectors are held periodically at which timber assessment problems are discussed.

PENNSYLVANIA

"It shall be the duty of the several elected and appointed assessors, in their return of real estate to the commissioners of the proper county at each triennial assessment, to make returns of all the timber land in their proper district by specifying in separate columns how many acres each tract contains of cleared land and how many in timber."

The General County Assessment
Law (Act of May 22, 1933)
Sec. 418.
CCH Par. 91-101

"Timber. The owner of timber land must wait for a number of years before he realizes any income from his crop. For this reason local Assessors should use great care to avoid over-valuation on timber land. Excessive assessments will result in forcing this class of land to become tax delinquent. It may also result in forcing early or heavy cutting. The Assessor should examine each tract of timber land as to (1) the amount of merchantable timber and (2) the species making up the stand. The assessment should be made on the basis of this observation and the Assessor's knowledge of the value of the different species locally. Under the present tax system a range from \$2 to about \$10 per acre might be used."

(p. 62)

Handbook for Pennsylvania
Assessors. Associated
Institutes of Government of
Pennsylvania Universities. 1950.

A publication entitled "Aerial Photographs as Tax Maps" has been prepared by the Pennsylvania Department of Commerce, State Planning Board (26 pages, Processed, 1952). While not concerned primarily with assessment of forest land, such lands receive mention.

SOUTH DAKOTA

"... It shall be the duty of the assessor to determine and report each year the acreage of timber within his district. Such report shall indicate separately the acreage of natural and cultivated or planted forests averaging four feet over in height, and shall also specify the kind of trees. Such data shall be taken and reported by the assessor without extra compensation..."

South Dakota Code, Sec. 57.0308.
CCH Par. 93-219

"Real property for the purpose of taxation shall be construed to include the land itself...trees or other fixtures of whatsoever kind thereon... Trees planted under the Timber Culture Act of Congress shall not be considered as improvement on land for the purpose of taxation."

(pp. 20-21)

"Standing timber on government or State land owned by private persons...should be assessed as personal property."

(p. 151)

Assessors Handbook for 1951
Division of Taxation

"Forest land from which the usable timber has been removed is 'agricultural land' within the statute, although only a small portion of it could be cultivated."

Attorney General's Opinion
May 27, 1940,
CCH Par. 20-203.003

TEXAS

"...the Land Commissioner shall furnish...to the various...tax assessors...a full and complete list of all timber sold by the State belonging to the school funds, giving the number of acres, price and to whom sold, in the respective counties where the timber so sold is situated..."

Revised Civil Statutes, Art. 7173
CCH Par. 96-100.

"Where timber has been sold separately and apart from the land, though standing, it is taxable separately and apart from the land and to the owner. This rule applies whether the timber stands on land owned by the State or individuals..."

(p. 10)

"Timber held by persons or corporations heretofore or hereafter purchased from the State under the various laws for that purpose, shall likewise be subject to assessments for taxes and the value thereof for taxation shall be ascertained as the value of other property is ascertained. ..."

(pp. 11-12)

Instructions for Assessing
Office of Comptroller, 1954.

UTAH

"Real estate includes:

- (a) The possession of, claim to, ownership of or right to the possession of land.
- (b) ...all timber belonging to individuals or corporations growing or being on the lands of this state or the United States, and all rights and privileges appertaining thereto.

..."

(p. 6)

Property Tax Manual,
State Tax Commission, 1950.

WASHINGTON

" 'Personal property' includes,...all standing timber held or owned separately from the ownership of the land on which it stands; ..."

Revised Code of Washington,
Sec. 84.04.080
CCH Par. 96-008

" 'Real property' means the land itself,...all standing timber growing thereon, except standing timber owned separately from the ownership of the land upon which it stands or is growing;..."

Revised Code of Washington,
Sec. 84.04.090
CCH Par. 96-009

A comprehensive and detailed manual for forest land and timber assessments^{1/} prepared in accordance with a directive of the Legislature, is in use. The manual contains numerous tables covering forest land quality, access and topography, bare land values, and appraisal guides for immature and mature timber. Volume tables and log grades are also included. While not practical to quote from the manual at length, the table of contents is summarized below and indicates the scope of the publication.

Introduction

Purpose

Factors of Consideration

Forest Land Quality

Timber Quality and Species

^{1/} Appraisal Manual for Timber and Timberlands for use by Washington Assessors, Tax Commission, Olympia, Washington. 1952. 70 pages. Processed. \$2.50.

- Logging Costs
- Time of Cutting
- Uninsurable Risks
- Miscellaneous Forest Products
- Development of Appraisal System
 - General Division of Forest Area
 - Western Washington
 - Eastern Washington
 - Detailed Division of Forest Land and Timber
 - Bare Land
 - Non-Merchantable Immature Timber
 - Merchantable Timber
- Determination of Unit Values
- Supplementary Information

Part I Appraisal of Forest Lands and Timber for Tax
 Assessment in Western Washington

- Step 1 Cruise or Examination of Tract
- Step 2 Appraisal of Bare Land
- Step 3 Appraisal of Non-Merchantable Immature Timber
- Step 4 Appraisal of Merchantable Timber

Part II Appraisal of Forest Lands and Timber for Tax
 Assessment in Eastern Washington

(Similar to Part I)

Part III Suggestions for Improvement of Forest Land Inventory
 Procedure by County Assessors

- Aerial Photos
- Timber Cruise Methods
- Determination of Stocking on Lands
- Checking Cruises
- Use of Available Information
- Scaling Log Rafts

Part IV Adjustments for Future Market Changes

- Western Washington
- Eastern Washington

"...

"(1) There is no legal basis for the valuation of timber for property tax assessment at less than fifty percent of its present true and fair market value where the timber is or can be made accessible for harvesting in the year of assessment merely by reason of the fact that the owner stipulates that the timber will not be harvested for a certain number of years in the future.

"(2) Where mature timber is so situated that it is physically impossible to harvest the same in the year of the assessment due to its inaccessibility, such factor should be considered by the assessor in determining its assessed valuation, the timber being of less value than similar timber which is accessible and is possible of harvesting in the year of assessment.

..."

Opinion of Attorney General,
March 12, 1952.
CCH Par. 20-301.82 (Summary)

"...the period of cutting is a proper factor to consider in common with the other factors given by the timber appraisal manual in the valuation of merchantable timber. Furthermore, the rate of logging in the area in the past, adjusted to reflect any relevant facts affecting projection of that rate into the future, is a factor which should be considered in determining the period of cutting."

Opinion of Attorney General,
March 16, 1955.
CCH Par. 200-085

WEST VIRGINIA

"All property must be classified as of the first day of the taxable year as follows:

...

Class II shall include...all farms, including land used for horticulture and grazing, occupied and cultivated by their owners or bona fide tenants;

Class III shall include all real and personal property situated outside of municipalities, exclusive of Classes I and II property;...

"Farm" shall mean a tract or contiguous tracts of land used for agriculture, horticulture or grazing.

"Occupied and cultivated" shall mean subjected as a unit to farm purposes, whether used for habitation or not, and although parts may be lying fallow, in timber or in waste lands."

(pp. 16,17)

"Generally, some timber lands used in connection with a farm may be entitled to a preferred classification, but large tracts of cut-over land and timber lands not used in connection with a farm, are not entitled to the preferred classification."

(p. 18)

"When any person becomes the owner of the surface, and another or others become the owner of...the timber thereon, the assessor must classify and assess such respective estates, or any undivided interest therein, to the respective owners thereof... When any person or persons are, or become, the owner or owners of any undivided interest or interests in land, or in...timber or other estate or estates therein, the owner or owners of such undivided interest or interests shall have their land, or estate or interest or undivided interest in such land...entered on the land books of the county in which it...is situated..."

(p. 21)

"Timber Lands. The best information obtainable should be secured as to the various kinds and grades of timber, and the estimated amount and value of each kind on the land, or in the tract to be assessed. When the

total number of feet of each kind of timber has been ascertained, then determine the value of such timber on the stump per thousand feet, taking into consideration the distance from the nearest shipping point and in this manner determine the total present worth or value of the timber and add the total amount thus obtained to the value of the land, including the value of minerals, if there be such, and make one entry of the total value, if the land is owned in fee, to the owner or owners thereof. If the timber is owned separately and apart from the surface, then the value should be determined as stated above, and the timber assessed in the name of the owner, giving number of acres, and description of land or tract."

(p. 24)

West Virginia Assessors' Manual,
State Tax Commissioner, 1952.

WISCONSIN

"Real estate, how valued. (1) Real property shall be valued by the assessor from actual view or from the best information that the assessor can practicably obtain, at the full value which could ordinarily be obtained therefor at private sale. In determining the value the assessor shall consider, as to each piece, its advantage or disadvantage of location, quality of soil, quantity of standing timber...

"(2) The assessor, having fixed a value, shall enter the same opposite the proper tract or lot in the assessment roll, following the instructions prescribed therein,...

...

In towns, he shall segregate into the following classes on the basis of use and set down separately in proper columns the acreage and the value of the parts of land, exclusive of improvements, and the improvements which fall within each class:

...

- D. Agricultural,
- E. Marsh, cut-over, or waste,
- F. Timber,
- ..."

Wisconsin Statutes, 1951,
Sec. 70.32.
CCH par. 91-231.

"... The Field Book requires the assessor to subclassify lands of classes D, E, and F into grades for the purpose of applying unit prices in building up values in those classes...

"Class D, Agricultural. This class includes all lands used for farming, and is divided into the following five subclasses or grades:

...

Wild Pasture. This sub-class includes that part of a farm which has never been plowed but which is used for grazing. It includes open pasture and wooded pasture. It includes cut-over land used for pasture, whether the stumps or stones have been removed or not. All such lands used for pasture are kept in this grade until broken up, when they become either first, second, or third grade plow land. This grade also includes marsh lands which are used for pasture. Land used for pasture should never be put in Class E.

"Class E, Swamp, or Marsh, Cut-Over, and Waste. This class includes land of the designated types which is not in present use. For convenience in assessing, it is divided into the following four subclasses or grades...:

Swamp. This subclass or grade includes low, wet land of some prospective value but not used for agriculture. It does not include swamp land upon which timber is growing. Such land is included in Class F, Timber. Swamp or marsh land devoted to muskrat raising or moss culture is devoted to a present use and should be included under agricultural land. This grade does not include such swamp as is entirely valueless. Swamp of that kind is included in the fourth grade--Waste.

Cut-Over. Such lands may be used for agricultural land in the future but are not so used now. If cut-over lands are used for pasture they are not in Class E but belong to wild pasture of Class D. The grade of cut-over lands, whether good or poor, is to be used in the northern part of the state only and does not apply to the southern part of the state except in a very rare instances.

Waste. This subclass includes lands which do not now have any present or prospective value. It includes entirely worthless swamp, worthless river bottom, worthless sand lands, rock bluffs, and land of all other description which now seems valueless for any purpose.

"Class F, Timber. This class includes land upon which there is a growth of trees and whose predominating use is the production of trees. This class does not include lands which have a scattered growth of trees but which are used for pasture. Such lands are put in Class D under the grade designated as "Wooded Pasture." This class includes the following grades:

Mixed Timber. Lands growing a mixture of hard timber, to wit, oak, maple, birch, elm, basswood, and poplar, and soft timber, to wit, pine, hemlock, spruce, balsam, cedar, and tamarack.

Wood. This subclass or grade includes land upon which are growing trees suitable only for or grown for cord wood, firewood, bolts of various kinds, etc."

(pp. 20-22)

Assessors' Manual, Wisconsin
Department of Taxation, 1952.

Assessors in the northern portion of the State where much of the timber is located are furnished with the Wisconsin Forest Products Price Review, compiled in the Extension Forestry Office, College of Agriculture, University of Wisconsin. This may be used as a guide in determining stumpage values.

